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ABSTRACT

A study of the relationship between student perceptions and learning behaviors attempted to answer the questions: (1) What are the perceptions of academic responsibility of the students? (2) How different are their perceptions when school, class, level of performance, and gender are different? and (3) To what extent is their perception of responsibility related to their learning outcome? Subjects, 291 male and female adolescent students from five schools in Singapore, completed the Intellectual Achievement Responsibility (IAR) Scale. Results indicated that the students have a sense of responsibility and are more likely to accept blame for failure than personal credit for success. This response is stronger among high achievers and top classes than for lower achievers and classes, and also stronger among girls than boys. No correlation was found between students' responses to successful or positive events and performance, but there was a high correlation between their responses to negative events and performance. This outcome suggests that those who accept greater blame for failure are motivated to work harder to achieve. Contains 10 references. (DMG)

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'I am responsible, I will do well!'

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The title of this paper is an assertion of a conscientious student. Do Singapore adolescent learners feel the same way? This is an important issue to explore. If students believe that whatever performance outcome they have is due to their own effort, diligence, attentiveness, and ability, they will take pride in their achievement and feel bad when they are not doing so well. As a result of their sense of responsibility in their academic work, they will try harder the next time round. Their exerted effort is the result of their perception of responsibility in learning.

Students' perception about their environment (teacher, parents, peers, work or study, and facilities) and about their abilities (intelligence, skills, and knowledge) is expected to influence their learning behaviour, their well-being and interpretations of achievement performance (Ames, 1978, Chambers & Abrami, 1991; Craven, Marsh, & Debus, 1991; Weiner, 1990). In the classroom, these interpretations involve explanations about the causes of achievement outcomes that may have great influence on the cognitive as well as the affective reaction of students on their performance. To know the perceptions of students, teachers may be able to help them through education by rendering help and guidance in facilitating effective and satisfactory learning.

The study

This paper attempts to answer the following questions:

1. What are the perceptions of academic responsibility of some Singapore adolescent learners?
2. How different are their perceptions when school, class, level of performance and gender are different?

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3. To what extent is their perception of responsibility related to their learning outcome?

Procedure. Five teachers from the Further Professional Diploma in Education Programme, 1994, were approached to carry out the study. They were from different schools and taught different subjects, see Table 1. NH1, NH2 and NH3 are neighbourhood schools which take in both boys and girls, while A11B is a SAP (Special Assistance Plan) school and takes in only boys, and A11G is a girls' school of good standing.

A total of 291 Secondary Three students from nine classes responded to the modified Intellectual Achievement Responsibility Scale, IAR in short (Crandall, Katkovsky & Crandall, 1965). This instrument explores learners' sense of responsibility to achievement-related outcomes.

Table 1
Distribution of Students by School, Class and Gender

School/Subject	Class	Female	Male	Total
NH1 (Hist)	3A1 *	19	20	39
	3E1 (Weak)	18	23	41
NH2 (Hist)	3B *	36	0	36
	3D (Low)	9	21	30
NH3 (Geog)	3E1 *	9	8	17
	3E2 *	11	16	27
A11B (Chem)	3S1 (Top)	0	30	30
	3E3 (End)	0	30	30
A11G (Mid-Yr)	Sec3 (Top)	41	0	41
Total	9	143	148	291

Key: *descriptions of ability/performance not specified.
Hist = History, Geog = Geography, Chem = Chemistry, Mid-Yr = Mid-Year Marks.

Analyses were carried out on the responses to the questionnaire and the examination marks available from the teachers. Only the teacher from school A11G provided data of one class and its mid-year examination marks of combined subjects while the other four teachers provided data on two classes with examination marks on their own teaching subject.

Instrument. The IAR scale was slightly modified and reduced to 30 items. Each item describes either a success event (indicated by I+) or a failure event (indicated by I-) which routinely occurs in a student's daily life. For each item, a respondent is required to choose one of the two options--'a' and 'b.' The option 'a' or 'b' is a statement accepting credit for self or others for something well done, or blaming self or outside agents for performing poorly. Whether a student chooses an 'a' option or a 'b' option, responsibility for the outcome is assumed. The scoring scheme remains the same as the original version.

Administration. No specific instructions were given. Students were simply asked to complete the questionnaire to help teachers understand them better. They were told that there was no right or wrong answer and that their responses would be treated as confidential. They took less than a 35-minute period to complete the questionnaire which was submitted before the end of the lesson.

Results

How do students view their responsibility in their academic performance?

At a glance (see Table 2), the adolescent students appear to have internal causal attribution, scoring a mean of above 20 (maximum is 30) on total I. They see themselves as responsible for their performance. In particular, they attribute to internal causes for negative outcomes higher (though not always significantly) than on positive outcomes. Similar to the findings of Bar-Tal and Darom (1979) but different from Frieze and Weiner (1971), the students in the sample blame themselves for their failure more than they take credit for their

Table 2

Means and SD of Responsibility Scores and Sub-Scores by School and Class

School/Class/Marks	I+ Mean (SD)		I- Mean (SD)		Total I Mean (SD)
Total sample	10.38 (2.10)	@@@	11.20 (2.06)		21.58 (3.23)
NH1	**10.41 (2.13)**	**@**	**11.08 (1.83)**		**21.49 (3.00)**
NH1 3A1	10.33 (2.18)	@	11.38 (1.71)		21.72 (2.67)
NH1 3E1 (Weak)	10.49 (2.10)		10.78 (1.90)		21.27 (3.30)
High	10.32 (2.46)	@	11.52 (1.90)		21.65 (3.20)
Low	10.58 (2.23)		11.08 (2.21)		21.65 (3.85)
NH2	**10.18 (2.15)**	**@**	**10.88 (2.20)**		**21.06 (3.49)**
NH2 3B	10.08 (2.36)	@	11.06 (2.08)		21.14 (3.65)
NH2 3D (Low)	10.30 (1.91)		10.67 (2.35)		20.97 (3.34)
High	10.57 (1.80)		11.14 (2.33)		21.71 (3.08)
Low	9.95 (2.01)		10.19 (2.29)		20.14 (3.69)
NH3	**11.00 (1.79)**		**11.48 (1.99)**		**22.48 (3.06)**
NH3 3E1	10.94 (1.85)		11.65 (2.45)		22.59 (3.62)
NH3 3E2	11.04 (1.79)		11.37 (1.69)		22.41 (2.72)
High	10.94 (2.05)	@	12.12 (1.58)		23.06 (2.86)
Low	10.69 (1.74)		11.06 (1.98)		22.59 (2.91)
A11B	**10.30 (2.16)**	**@**	**11.02 (2.24)**		**21.32 (3.56)**
A11B 3S1 (Top)	10.67 (2.25)		11.57 (2.27)		22.23 (3.69)
A11B 3E3 (End)	9.93 (2.03)		10.47 (2.10)*		20.40 (3.22)*
High	10.25 (2.43)		11.05 (2.24)		21.30 (3.63)
Low	9.63 (1.98)		10.58 (2.14)		20.21 (3.47)
A11G Sec 3 (Top)	**10.07 (2.16)**	**@@@**	**11.95 (1.96)**		**22.02 (2.80)**
High	9.56 (2.80)	@@@	12.69 (1.58)		22.25 (3.13)
Low	10.63 (1.54)		11.19 (2.34)*		21.81 (3.21)

Key: @ = $p < .05$; @@@ = $p < .005$.
@s between columns indicate significant differences between I+ and I- mean scores.
* = $p < .05$. An asterisk next to a number shows significant difference between the rows under that event.

success. In four out of five schools, students attribute to internal causes significantly higher when events are negative than when events are positive.

As expected, students who ascribe to internal causes for positive outcomes would also ascribe to internal causes for negative outcomes ($r = .2$, $p < .005$). There is, however, a small number of exceptions. About 10% of the students score

either low on I+ and high on I- (6.2%), or high on I+ and low on I- (3.8%) when compared with their peers. In other words, there is a handful of students (6.2%) who feel that they are responsible for their failure but not so much when they succeed. Similarly, a small percentage of students (3.8%) feel more responsible when they succeed but less so when they fail.

How do students' sense of responsibility differ across schools? Differences are seen between the students of NH3 and the students of the other schools. NH3 students score highest on total I. They score significantly higher ($p < .05$) than all the other school groups with the exception of A11G students. The latter score highest on I-, they are found to score significantly higher than all the other school students ($p < .01$; and $p < .05$ comparing with A11B) except NH3 students. NH3 students have the highest I+ mean score and score significantly higher ($p < .05$) than NH2, and A11G students, who score the lowest on I+.

To summarize, NH3 students in this sample have internal locus of control while the A11G students are most internal only when events are negative. Students from NH3 takes great pride in their success and generally in their performance. A11G students score lowest on I+ and highest on I-, blaming themselves more than others for poor work, yet taking less credit for their good performance. They tend to be self-effacing.

How different are the better classes compared with the weaker classes, and the high achievers with the low achievers? Since there is no standardised achievement measure in this study for all the five schools, comparisons based on performance can only be made within schools using the subject marks available. The top and bottom thirds based on the subject marks within the same school were roughly grouped into high and low achieving students and these two groups were compared within the schools on the internal score means.

Unexpectedly, no significant difference in the I+ mean score is

found between better and poorer classes, or between high and low achieving students. Neither is there a consistent pattern in the causal attribution for the successful events, see Table 2. With the exception of A11B, the better classes and the high performers produce a significant difference between attribution for success and failure while weaker classes show no such significance. Better classes (NH1 3A1 and NH2 3B) and high performers (in NH1, NH3 and A11G) attribute to internal factors significantly more when failure occurs than when success takes place (see @ between columns I+ and I- in Table 2). This suggests that students in the better classes and high performers tend to blame themselves for their failures. They perceive greater responsibility for their failure than for their success, and this could have spurred them on to do better academically.

How do boys and girls differ when making causal attributions? For this comparison, boys are compared with girls within the same school since they share the same 'culture.' Schools with single sex, however, are compared with another single sex school or classes of opposite gender. Similar to other studies like that of Stipek and Gralinski (1991), gender differences are noted. Comparing the total sub-samples of girls and boys, they are about the same on the total internal measure. They differ when events are different. The girls attribute significantly higher than boys to internal causes on negative events (see Table 3) while boys generally are significantly more internal when the outcomes are positive. On the success events, the boys in NH1 school as well as in NH1 3A1 class had significantly higher I+ than the girls, no other differences among subsamples are found. On the negative events, almost 50% of the comparisons show that girls score higher internally than boys, suggesting that girls perceive greater responsibility than boys for their poor performance. They blame themselves more than boys when things turn out badly. Looking at the total I mean score, NH3 boys are most internal but they are not significantly more internal than A11G girls who had the highest mean score among the females.

Table 3

Comparison of Responsibility Scores and Subscores by Gender

Subsample		N	I+	I-	Total I
Subsample	(F)	143	10.09	11.45	21.54
Subsample	(M)	148	10.66 *	10.97 *	21.62
AllG	(F)	41	10.07	11.95	22.02
AllB	(M)	60	10.30	11.02 *	21.32
AllG	(F)	41	10.07	11.95	22.02
AllB 3S1	(M)	30	10.67	11.57	22.23
AllG	(F)	41	10.07	11.95	22.02
AllB 3E3	(M)	30	9.93	10.47 ***	20.40 *
NH1	(F)	37	9.89	11.43	21.32
NH1	(M)	43	10.86 *	10.77	21.63
NH1 3A1	(F)	19	9.68	12.32	22.00
NH1 3A1	(M)	20	10.95 *	10.50 ***	21.45
NH1 3E1	(F)	18	10.11	10.50	20.61
NH1 3E1	(M)	23	10.78	11.00	21.78
NH2 3B	(F)	36	10.08	11.06	21.14
NH2 3D	(M)	21	10.48	10.57	21.05
NH3	(F)	20	10.60	11.40	22.00
NH3	(M)	24	11.33	11.54	22.88

Note: *$p < .05$; ***$p < .005$ indicating significant difference between females (F) and males (M) in the event laid out in the column.

Can perception of responsibility predict academic performance? Scores on I+ do not correlate with performance levels. However, performance level correlates highly and significantly with I- scores ($r = .2$, $p < .005$), and moderately with total I ($r = .1$, $p < .04$). These findings suggest that students with internal locus of control and especially those who assume greater blame for their failures do well in their academic work. Although affectively, these students suffer from guilt or shame when they do not do well, but that feeling could have motivated them to work harder to achieve.

Conclusion

Results indicate that the students generally have a sense of responsibility in their academic performance. When performance outcome is undesirable, they assume greater responsibility than when outcome is desirable. This is more so among top classes and higher achievers. Girls are more responsible than boys especially in unpleasant outcomes. Perceptions of responsibility for failure are found to predict performance outcome at the $p < .005$.

As causal perceptions of responsibility has an important effect on the academic achievement of the students, it would be desirable to know students' perceptions of academic responsibility and help change their views in the direction of emphasising effort or ability as the cause for success and the lack of these as a factor for failure. These causal perceptions can then maximize the academic performance of the pupils, and even if no effect on performance of the students, there should be advantageous effects on the affective and expectancy aspects of the learners. Here we assume that ability can be gained with effort and knowledge.

This exploratory study however, has its limitations. The sample is not representative, hence generalizability is reduced. It did not take into considerations of the various age range, and school background. Performance level is arbitrarily done on a single and different academic subject without a common assessment mode or similar contents, thus making it more difficult for categorising the students in terms of performance level. Classes sampled are not representative of the whole spectrum of ability. Hence comparison across classes is limited.

For further research, the affective as well as the cognitive aspects should be monitored and measured systematically to produce an accurate effect of perception of responsibility on academic performance. Although effort and ability are both internal factors, they should be studied separately since the former is a controllable variable and the latter is seen as

uncontrollable. As there is no norm for the subscores, the high and the low I+ or I- scores are arbitrary. It would be easier and more accurate to identify the various causal perception styles, for example, the self-enhancing and the self-effacing styles, if a norm is available. Furthermore, an additional instrument such as an open ended questionnaire like Wong's (1989) could provide more information on adolescents' perception of responsibility. Since causal perception can be cognitively modified (e.g., Andrews & Debus, 1978), it would be appropriate also to test out some retraining techniques and programmes for future application.

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Note: This paper is a simplified version of an article entitled "Responsibility in Academic Performance: Perceptions of Adolescent Students" by Wong, L., Lee, F., Lee, S. H., Leong, M., Lim, L., & Low, S. The article has been accepted as a chapter for a book on adolescents.

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